BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

JAN 11 1996

In the Matter of	)	
	)	
Price Cap Performance Review for	)	CC Docket No. 94-1
Local Exchange Carriers	)	
	)	

COMMENTS OF
SOUTHWESTERN BELL TELEPHONE COMPANY

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Table of Contents
CC Docket No. 94-1

Comments of
Southwestern Bell Telephone Company

SUMMARY*

In general, the Fourth FNPRM properly considers the issues concerning the adoption of a TFP approach in setting the productivity offset in the LEC price cap plan. SWBT herein explains how the Commission should resolve those issues so as to adopt the USTA proposal for the TFP method.

The TFP method has now been improved to fit the Commission's recently stated goals for a method. Adoption of the TFP approach is warranted as the other methods suggested are inherently flawed.

The Commission should not skew the TFP approach as some of the competitors of the price cap LECs will suggest. An input inflation differential should not be included, nor should TFP be calculated on less than a total company basis.

The Commission should also reject attempts to weigh down LEC price cap regulation with burdens that would drive out the incentives that price cap regulation was adopted to provide. The CPD has no place in a proper price cap system, and the use of multiple x-factors and sharing to limit or void proper economic incentives should be rejected.

The Common Line price cap mechanism must also be revised at this time. Failure to make the appropriate changes now will unduly complicate or prevent future necessary modifications to Common Line cost recovery.

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* All abbreviations used herein are referenced within the text.

Table of Contents
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Southwestern Bell Telephone Company (SWBT), pursuant to the Fourth FNPRM,[1] hereby responds to the issues listed by the Federal Communications Commission (Commission). In these Comments, SWBT explains why the Commission should finally adopt the Total Factor Productivity (TFP) approach in setting the productivity offset in the LEC price cap plan. SWBT further explains that various proposals to skew the results of the TFP approach should be rejected and that other proposals to eliminate incentives from price cap regulation should also be rejected.

I. THE TFP APPROACH IS SOUND.

SWBT has consistently supported the use of TFP measures in setting a productivity offset in price cap plans. SWBT first expressed that support in 1987 in response to the Commission's very first Notice of Proposed Rulemaking in its original proceeding on

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[1] Price Cap Performance Review for Local Exchange Carriers, CC Docket No. 94-1, Fourth Further Notice of Proposed Rulemaking, (FCC 95-406) (Released: September 27, 1995) (Fourth FNPRM). SWBT also responds herein to Issues 19 and 20 from the Price Cap Performance Review for Local Exchange Carriers, Second Further Notice of Proposed Rulemaking in CC Docket No. 94-1, Further Notice of Proposed Rulemaking in CC Docket No. 93-124, and Second Further Notice Of Proposed Rulemaking in CC Docket No. 93-197, FCC 95-393 (rel. Sept. 20 1995). (Second FNPRM).

price cap regulation for AT&T and the LECs.[2] The Commission relied on TFP results, in part, in establishing the AT&T price cap plan.

The Commission also relied on indirect productivity studies when initiating and then again when revising the LEC price cap plan. Consistent with its most recent conclusion that TFP is a superior method of establishing a productivity offset,[3] the Commission must now adopt the Christensen TFP approach in establishing the productivity offset in a permanent price cap plan for the LECs.

The TFP approach is the only economically meaningful measurement of achieved productivity. Proponents of the Historical Revenue methods and the Historical Price methods cannot legitimately make such claims. In fact, in order for the Commission to "reconcile" the TFP-based results with any results from attempts to measure productivity using the Historical Revenue or Historical Price methods, the Commission must consider exactly those aspects of the TFP approach that demonstrate its superiority.

The provision of telecommunications services under the Commission's jurisdiction is characterized by the existence of joint and common costs that make any attempted

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[2] "The only proper measure of productivity for use in a price capping formula is Total Factor Productivity (TFP)." SWBT Comments in CC Docket No. 87-313, filed October 19, 1987, p. 41; see id. pp. 42-43. See e.g., other SWBT filings in CC Docket No. 87-313, SWBT Reply Comments, filed December 4, 1987, pp. 33-35; SWBT Comments, filed July 26, 1988, pp. 7-10; SWBT Reply Comments, filed September 9, 1988, pp. 25-26.

[3] The Commission stated in the First Report and Order "that a TFP approach should be used in the future to compute the X-factor in the LEC price cap formula." Price Cap Performance Review for Local Exchange Carriers, CC Docket No. 94-1, First Report and Order, para. 155. The Commission goes on to conclude that "because TFP measures actually measure productivity growth rates, a TFP approach would appear to be ideally suited to determining the X-factor." Id., para. 157.

measurement of productivity associated with specific subsets of telecommunications services completely arbitrary and meaningless.[4] Only the TFP approach recognizes the existence of joint and common costs and appropriately includes all outputs and inputs in the calculation of productivity.

A. The Modifications to the TFP Study Satisfy Commission Preferences.

SWBT strongly supports the Comments filed on this date by USTA. Upon examining the TFP study presented by USTA in the initial rounds of comments in this docket and then in ex parte contacts during 1994 and early 1995, the Commission expressed specific concerns with the version of the Christensen TFP approach utilized in the initial USTA TFP study. The Fourth FNPRM stressed strong preference for methods that are administratively simple, that utilize publicly available and verifiable data, and that are economically meaningful.[5]

Based on discussions with the Common Carrier Bureau staff and the detailed questions and recommendations contained in the Fourth FNPRM, USTA has worked with Christensen Associates[6] to make a number of significant improvements to the original Christensen study methods. Importantly, none of the improvements in any way compromise the soundness of the economic theory behind the Christensen TFP approach. Several of the improvements specifically recognize the Commission's request that the sources of data utilized

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[4] For example, any attempt to attribute productivity to interstate services alone makes demonstrably incorrect assumptions about the way in which outputs are generated and costs are incurred in the telecommunications industry.

[5] Fourth FNPRM, para. 16.

[6] Laurits R. Christensen, Philip E. Schrich and Mark E. Mertzen, "Total Factor Productivity Methods for Local Exchange Carriers," Attachment A, USTA Comments on Fourth FNPRM (Christensen Response).

in the TFP study be public data sources that allow the Commission and all interested parties to validate the TFP results.[7] The effect on LEC TFP estimates of using the more simplified method and relying exclusively on public data, rather than the method in the original Christensen study, was relatively moderate. The average annual TFP growth over the 1984-93 time period was 2.4% in the original Christensen study and 2.9% using the simplified methods and public data.[8]

For the older study data (before 1988), less of the data needed to ensure consistent calculations of TFP is available from public sources and must instead increasingly come from internal analyses and data that are not from public reports. Moving to the simplified methods using public data sources had a somewhat greater effect on the estimated TFP results for the 1984-87 time period than for the 1988-93 time period. The LEC TFP growth over the 1988-1993 period was 2.8% in the original Christensen study and 3.0% in the simplified study using public data. Thus, average annual TFP growth changed by only 0.2 percent for the 1988-93 time period.[9]

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[7] For example, the current Christensen TFP study: (1) substitutes the number of employees from verifiable public sources for the number of hours worked by management and nonmanagement employees available only from internal nonpublic sources; (2) substitutes booked revenues from verifiable sources for billed revenue from nonpublic sources; and (3) substitutes capital price inflation indexes from public sources for telephone plant indexes (TPIs) from nonpublic sources. See Christensen Response, pp. ii-iv and 28-32.

[8] See Christensen Response, USTA Comments, on Fourth FNPRM, Table E-1, Column "TFP Growth Original" p. v., and Table E-2, p. vi, column "TFP Growth."

[9] These calculations are based on an average of five years of growth over the data period 1988 to 1993 and using only the nine companies in the original study. Christensen Response Table E-1.

The TFP calculations described above were performed using the same nine price cap companies that were in the original Christensen study and covered the period 1984-93. Likewise, the original study covered the period from 1984 through 1993.

In the current simplified Christensen study, two additional price cap LECs (Lincoln and Sprint) were added. Data were obtained for all of these eleven price cap LECs for the 1988 through 1994 time period. Data from 1984 through 1987 were considered, but not included in the simplified study because the additional data adjustments needed to ensure consistency of the underlying TFP calculations is available only from internal company analyses and reports that are not public. The adjustments include: (1) adjustments to capital and expense accounts for 1984-87 to reflect the capital-to-expense shift that occurred with the change from Part 31 to Part 32 accounting rules effective 1-1-88; and (2) the nonregulated revenues and expenses for 1984-87 that are associated with the "below-the line" nonregulated operating income for 1984-87 that were subsequently booked "above the line" under Part 32 rules from 1988 forward. Results for the nine company sample were compared with results from the eleven company sample to ensure that beginning the simplified study in 1988 did not cause any measurement problems.

B. The TFP Use of Economic Concepts and Data is Superior.

An important benefit of the TFP approach is its reliance on economic concepts rather than accounting data. As the Fourth FNPRM states, the measurement of productivity should utilize an economically meaningful approach. Only the TFP approach fits this qualification.

Many of the accounting conventions utilized by the Commission do not reflect economically meaningfully results. For example, Part 36 jurisdictional separations rules do not reflect economic cost functions nor, given the certain existence of relatively large portions of joint and common costs, could they ever do so.[10] TFP measures do not rely on arbitrary accounting distinctions and thus remain reliable even in the presence of accounting rules that are not economically meaningful.

II. RESPONSES TO SPECIFIC QUESTIONS ON THE TFP APPROACH.

SWBT actively participated in and fully supports the Comments filed by USTA regarding the appropriateness of various aspects of the Christensen TFP approach. USTA and its consultants, Christensen Assoc. and NERA, respond to a number of specific questions regarding the TFP approach. SWBT agrees with the responses prepared by USTA and incorporates the USTA Comments into SWBT's Comments by reference.[11]

A. Input Index Issues

1. Cost of Capital

Issue 1b:

What is the most appropriate measure of the cost of capital for a TFP study?

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[10] The existence of significant joint and common costs means that growth in the outputs that are classified as interstate by the Commission's rules reduces the costs per unit allocated by other Commission rules to intrastate jurisdictions and to the interstate jurisdiction.

[11] SWBT fully supports all of the USTA responses to the Fourth FNPRM. SWBT provides no additional response to and incorporates by reference the USTA responses to Issues 1a, 1d, 1e, 1f, 1g, 1h, 1m.

A measure of the opportunity cost of capital that is most appropriate for use in a TFP study must have several important characteristics, as described below.

The measure should include both cost of debt and cost of equity components. SWBT supports using a measure of changes in the economic opportunity cost of capital that includes changes in the economic cost of equity.[12] When other factors are held constant (including the riskiness of the underlying business) and during periods of declining interest rates, market-based cost of debt falls faster and further than any economically meaningful measure of cost of equity. Thus, changes in the cost of debt tend to overstate changes in cost of capital when interest rates are declining.

The measure should be one determined by a consistent approach over time. The series of various Commission-prescribed maximum authorized interstate rates of return fails this criteria. The Commission's Part 65 Rules, which contained tightly proscriptive methods and which were utilized to varying degrees over the past decade, were flawed. These rules were finally revised earlier this year by removing inappropriate and mechanical approaches to determining cost of capital.[13]

When used to compare two or more sectors of the economy, the measure must be consistent across sectors of the economy. Several commentors in the prior round of this

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[12] SWBT does not support use of the Moody's Bond Yield data as an appropriate measure of LEC cost of capital. See SWBT Comments, CC Docket No. 92-133, Amendment of Parts 65 and 69 of the Commission's Rules to Reform the Interstate Rate of Return Represcription and Enforcement Processes, filed September 11, 1992; and USTA Comments in the same proceeding, filed September 11, 1992, pp. 47-51.

[13] Amendment of Parts 65 and 69 of the Commission's Rules to Reform the Interstate Rate of Return Represcription and Enforcement Processes, CC Docket No. 92-133, Report and Order, 60 Fed. Reg. 19526 (June 1, 1995).

docket drew flawed conclusions from the comparison of two inconsistent cost of capital measures and the associated input inflation measures. As Dr. Christensen demonstrated in an Affidavit filed on February 2, 1995, Ad Hoc and Selwyn incorrectly attributed some meaning to meaningless comparisons of inconsistent estimates of cost of capital.

The methods used by the Bureau of Labor Statistics (BLS) to measure cost of capital for the total U.S. economy are entirely different from, and totally inconsistent with, the relatively simple proxy method used in the original Christensen study. The TFP growth estimates derived from the two separate studies (i.e., the Christensen study for LEC and the BLS study for the U.S.) are not very sensitive to different specifications for cost of capital. Thus, as long as parties restrict their comparisons to differential TFP growth rates between the LEC and U.S. economy results, otherwise inconsistent measures of cost of capital do not present a major measurement problem.[14]

The USTA Comments present the correct approach for the appropriate measure of the cost of capital for a TFP study. USTA Comments provide further support of this position.

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[14] However, if a party attempts to compare differences in input inflation measures that are residually calculated from the TFP process, as was done by Ad Hoc and then by the Commission in Appendix F of the Fourth FNPRM, the problem of inconsistency in cost of capital methods becomes a paramount concern. As Dr. Christensen demonstrated, the fundamental and profound differences in two different approaches to measuring cost of capital renders the input inflation differential calculated by Ad Hoc and the Commission subject to significant error. For this reason, analysis of TFP differentials and, most importantly, input inflation differentials, must use consistent methods of measuring cost of capital. SWBT supports having Christensen Associates adopt the method currently utilized by the BLS.

2. Depreciation Rates

Issue 1c:

What are appropriate depreciation rates for a TFP study?

Correct measurement of the required inputs is absolutely essential to an accurate measure of productivity. The importance of measuring capital inputs correctly is heightened in this instance by the fact that the LEC industry is capital intensive. It is simply not correct to use as the level of capital input the level of accounting depreciation and amortization expense reflected on the regulated accounting records of the LECs.[15]

The recent history of the LEC industry is full of changes in regulated depreciation policies and expenses that do not properly reflect economic depreciation lives over time. For example, past regulated depreciation rates under the whole life concept were acknowledged by the Commission to be significantly below rates that reflected the economic obsolescence of assets.[16] Thus, in the late 1980's the Commission established specific Reserve Deficiency Amortization (RDA) schedules to make up for past inadequate depreciation rates. The existence of the RDA amounts fundamentally changed the basic relationship of regulated depreciation and amortization expense to total expense.

The Commission also changed the fundamental policies and methods of prescribing regulated depreciation rates to adopt a remaining life method.[17] In 1988, the

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[15] Christensen Response, p. 14.

[16] Amortization of Depreciation Reserve Imbalances of Local Exchange Carriers, Report and Order, CC Docket No. 87-447, (released January 21, 1988), paras. 17-25.

[17] See Amendment of Part 31 so as to permit depreciable property to be placed in groups comprised of units with expected equal life for depreciation under the straight-line method, Report and Order, Docket No. 20188, (released December 5, 1980), paras. 89-97. See also,

Commission adopted revised accounting rules that changed the relationship between capital and expense. In 1989 and 1990, some companies, including SWBT, experienced actual reductions in prescribed depreciation rates, just prior to the shift from cost-based regulation to price cap regulation. This heightened focus on capital recovery expenses and various other aspects of cost of service regulation occurred prior to the shift away from cost-based regulation to price cap regulation.

Upon adoption of the LEC price cap plan, where increased LEC depreciation expenses would for the first time not result in the ability to increase interstate access rates, increases in prescribed LEC depreciation rates became more prevalent. Then, in about 1992, the RDAs prescribed by the Commission in 1988 expired, but were not replaced with other forms of higher regulated depreciation expenses.

By 1995, most of the price cap LECs had stopped using FAS 71 governing accounting for regulated utilities. In the context of adopting accounting practices appropriate for firms in competitive industries, the price cap LECs have identified the fact that regulated accounting depreciation rates have been inadequate. Thus, the past decade has seen a significant number of changes in accounting-based depreciation expenses that are not related to economic depreciation rates.

The Prescription of Revised Percentages of Depreciation pursuant to Section 220(b) of the Communications Act of 1934, as amended, Order, (released December 20, 1993), paras. 1-4.

B. Input Price Adjustment (Input Inflation)

Issue 1i:

What is the most reasonable way to account for changes in LECs' input prices for use in a TFP approach to calculating the X-Factor?

An input inflation differential should not be included in the X-factor. The long-term average growth in LEC input inflation has very closely matched U.S. economy-wide input inflation. Thus, the average differential is zero. Including an input inflation differential would tend to significantly increase the volatility of LEC price caps, a result which would harm both the LECs and the LECs' customers. Also, the Commission does not have a reliable and consistent data series on the differences between LEC input inflation and U.S. input inflation that is absolutely essential to consider including some form of shorter-term input inflation differential adjustment in the calculation of the X-factor.

Christensen[18] and NERA[19] both present evidence that demonstrates, with the best data available, that the calculated LEC input inflation data is very volatile. Importantly, calculation of LEC input inflation is not the primary focus of any of the current TFP methods, including the Christensen study. As a result, an input inflation estimate can be derived using some of the same data utilized in the TFP measurement process. Because the input inflation "by-product" was never the focus of the TFP studies, little or no study was devoted to concerns regarding the volatility of the input inflation results.

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[18] Christensen Response, Christensen Appendix 3.

[19] USTA Comments, on Fourth FNPRM, pp. 30-34 and Attachment C, "Economic Evaluation of Selected Issues from the Fourth Further Notice of Proposed Rulemaking in the LEC Price Cap Performance Review," National Economic Research Associates (NERA Response), pp. 2-14.

Also, the LEC input inflation data series is calculated using methods and estimates that are fundamentally inconsistent with the U.S. input inflation data series. The Commission has attempted to imply some meaning to the calculated difference between the LEC input inflation by-product from the Christensen study and the U.S. input inflation estimates from the BLS study for the U.S. economy.[20] This calculated difference has no economic meaning since it may be caused by the inconsistent methods used for several major components of the two different studies.[21] As such, any conclusions drawn from these differences are flawed.

C. Calculations of a TFP index and an Input Price Index on a Less Than Total-Company Basis.

Issue 1j:

Is there a valid distinction between intrastate and interstate productivity for the purposes of calculating a TFP index and an input price index and, if so, does a satisfactory method exist to account for such differences?

The Commission correctly recognizes in the Fourth FNPRM that there can be no meaningful distinction between intrastate and interstate costs for the purposes of determining total factor productivity.[22] The existence of common costs in the telecommunications industry

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[20] The method used in this proceeding to calculate U.S. input inflation has been to add the growth in GNP-PI (or GDP-PI) calculated by the BEA in the National Income and Product Accounts to the growth in U.S. total factor productivity (or multi-factor productivity) calculated by the BLS. This method results in estimates of U.S. input inflation that exceed the estimate of U.S. input inflation calculated by the BLS by approximately 0.7 percentage points per year over the 1984-93 time period. Thus, the calculation of U.S. input inflation used in comparison can -- and does, in this case -- introduce another source of inconsistency and error.

[21] Christensen describes each of the major inconsistencies in the attachment to USTA's Comments, Christensen Response, pp. 26-27 and in an Affidavit filed with the Commission on February 2, 1995.

[22] Fourth FNPRM, para. 63; see NERA Response, pp. 16-18 and Christensen Response, pp. 15-16.

means that all regulatory allocations of costs to jurisdiction are arbitrary and have no economic meaning. Thus, any use of allocated interstate costs in a TFP study would result in arbitrary and meaningless TFP estimates. Aside from the arbitrary nature of any single set of separations rules, use of interstate costs in a TFP study would be distorted by the numerous changes in separations formulas and allocation factors that have occurred over time.

Importantly, any suggestion that the definition of interstate output is clear would be wrong. For example, the assignment of the Subscriber Line Charge and Carrier Common Line revenue to the interstate jurisdiction is totally arbitrary. Also, the Percent Interstate Usage (PIU) factors allow customers to declare the jurisdiction of output revenue. The "10%" rule that assigns private line revenues to interstate is likewise arbitrary. Thus, despite the fact that revenues are discretely recorded as either intrastate or interstate, the assignments in a number of important cases are arbitrary.

As the NERA Response demonstrates,[23] the relationship between output growth and cost growth cannot be determined on a jurisdictional basis. For example, an increase in the output of services classified as interstate causes changes in total company costs, thus affecting both the costs assigned to intrastate and costs assigned to interstate. NERA states correctly that "TFP growth is undefined for intrastate and interstate services, and attempts to adjust aggregate measures of TFP growth to offset differential rates of output growth or different average margins between price and cost can only be described as arbitrary."[24] Thus, even if output belonged

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[23] NERA Response, p. 19.

[24] NERA Response, p. 19.

unambiguously to one jurisdiction or the other, which it does not, the existence of common costs makes it impossible to determine the effect of interstate output growth on interstate costs.

Issue 1k:

Is there a valid distinction between regulated and nonregulated productivity, or the productivity associated with specific services, such as video dialtone, or groups of services, for the purposes of calculating a TFP index and an input price index? If so, does a satisfactory method exist to account for such differences?

The Commission explicitly recognizes the existence of common costs in its rules governing how the outputs and inputs associated with nonregulated services will be booked. The Commission's Rules state:

Section 32.23 Nonregulated activities

> (b) When a nonregulated activity does not involve the joint or common use of assets and resources in the provision of both regulated and nonregulated products and services, carriers shall account for these activities on a separate set of books consistent with the instructions set forth in [Sections] 32.1406 and 32.7990. ...
>
> (c) When a nonregulated activity does involve the common or joint use of assets and resources in the provision of both regulated and nonregulated products and services, carriers shall account for these activities within accounts prescribed in this system for telephone company operations. ...

Section 32.4999 (l)

> *Nonregulated revenues.* The nonregulated revenue account shall be used for nonregulated operating revenues when a nonregulated activity involves the common or joint use of assets or resources in the provision of regulated and nonregulated products or services and when such activity is accounted for as required in [Section] 32.23(c) of this subpart, within the accounts prescribed in this system for telephone company operations. ...

The Commission's rules require that when the production function for nonregulated services is separable from the production function for regulated services, the nonregulated revenues and costs are "booked below the line." The Christensen method does not include any below-the-line

nonregulated revenues or expenses in its calculations. When the production function for nonregulated services is not separable from the production function for regulated services, the nonregulated revenues and expenses are booked above the line and included in the revenues and expenses used in the Christensen method.

Thus, the Christensen approach of including nonregulated revenues and costs in the estimate of TFP is consistent both with the Commission's recognition of the nonseparability of the production function in Part 32 rules and with the Christensen approach of including both intrastate and interstate revenues and costs. There is no economically meaningful means of isolating the contribution to TFP growth of those nonregulated services that share common facilities with regulated services due to the existence of these common costs.

Use of Part 64 cost allocation procedures is not an economically meaningful way of excluding any nonregulated amounts from a TFP study. The Commission's Part 64 cost allocation rules rely on fully distributed costing methods which arbitrarily allocate shared and common costs to both regulated and nonregulated services. As a result, use of Part 64 allocations in a TFP study would result in arbitrary and meaningless estimates of TFP. Thus, contrary to an alternative suggested in the Fourth FNPRM,[25] the Part 64 rules should not be used to exclude nonregulated costs and demand from a TFP study.

D. Effect of Universal Service and Other Subsidy Programs on LEC Industry TFP

Issue 1*l*:

How do state and federal universal service and other subsidy programs implemented by the LECs affect the industry's TFP? Should the TFP be adjusted to account for such effects?

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[25] Fourth FNPRM, para. 70.

There is no need to adjust the TFP formula to account for state and federal universal service and other subsidy programs. The outputs created by the increased access to the public switched network facilitated by these plans are already included within the TFP output growth. Thus, the benefits of these programs are already captured by a TFP-based productivity factor. As noted in the USTA Comments, since the TFP is appropriately calculated on a total company basis, other potential effects from universal service and other subsidy programs are either minimized or eliminated.

E. Inclusion of Other Firms in Study.

Issue 1m:

Should the productivity of firms other than LECs be included in a TFP-based X-Factor calculation?

SWBT would not oppose the use of data on other firms in the calculation of a TFP-based X-factor. However, data limitations may prevent firms other than the LECs from being included.

No other segment of the telecommunications industry provides the detailed financial data made available by the price cap LECs. The calculation of TFP results requires the collection of data on revenues by category, expenses by category, investment by type, number of employees or labor hours worked, price changes by revenue category or demand volumes by revenue category and a number of other types of data.

In most U.S. industries, this level of detailed financial and market data needed to perform a TFP study is simply not made publicly available. This is because the release of such data would have significant value to the firm's competitors. For example, the U.S. Department of Labor and U.S. Department of Commerce, patently refuse to release any

individual company's demand, revenue, cost or employment data and suppresses any such industry data if the values for any individual firm can be implied by the release of that industry total.[26]

The level of detailed data required to reliably estimate productivity from IXCs, CAPs or other non-LEC telecommunications providers is neither publicly available nor verifiable. Thus, for now, the Commission may be forced by data constraints to exclude firms other than the price cap LECs from its TFP study.

F. Alternative Methods for Calculating TFP

Issue 1n:

Are there superior alternatives to Christensen's method of calculating TFP?

There are no other methods of calculating TFP that are superior to the methods used by Christensen Associates. Dr. Lau Christensen is one of only a few world-renowned experts in productivity measurement. Dr. Christensen has performed extensive work in measuring productivity in the telecommunications industry, the gas and electric industries, the trucking industry, the railroad industry, the U.S. postal service and a number of other industries. Dr. Christensen studied under and has worked extensively with Dr. Dale Jorgeson, another world-renowned productivity expert. He has cooperated with and co-authored articles with a number of other well-respected experts, including E. A. Berndt, D. W. Caves, D. Cummings F. M. Gollop, W. H. Greene, W. E. Diewart, L. J. Lau, M. E. Manser and M. W. Thretheway. Dr. Christensen's methods have been reviewed and published in numerous

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[26] See, e.g., the U.S. Department of Commerce, Bureau of the Census instructions on the proprietary nature of data collected for economic analysis in such surveys as the Annual Survey of Manufacturers and the Establishment Employment Survey.

professional journals and are generally regarded to be of very high quality. Thus, the Commission should not find that there are superior methods to the Christensen method of calculating total factor productivity.

G. Historical Revenue Method

Issue 2a:

Is the Historical Revenue Method superior to a TFP-based approach for developing an X-Factor?

A historical revenue method should not be used for estimating the productivity offset. The Historical Revenue Methods discussed by AT&T and GSA suffer from a number of fatal flaws that prevent them from presenting any reasonably meaningful estimates of LEC productivity for use in a price cap plan.

The Historical Revenue Method (HRM) "models" proposed by AT&T and GSA in the 1994 round of comments in this docket represent nothing more than the reimposition of rate-of-return (ROR) regulation applied to interstate services. The Commission concluded that ROR regulation was not in the public interest when it adopted price cap regulation, first for AT&T, then for the LECs and then for cable operators. The simple, but totally misguided, question apparently posed by the AT&T/GSA approach is: what constraints does it take to force the LECs' interstate accounting earnings to remain flat at the authorized ROR?[27]

[27] The AT&T/GSA approach would, in effect, try to find the means by which firms are totally discouraged from efficient behavior because of the enforcement of a cost plus, no-gain situation.

The AT&T HRM suggestion is also flawed for another reason. It relies on the artificial Part 36 separation of results into intrastate and interstate estimates and a number of other accounting rules that bear no resemblance to meaningful economic results.

The HRM approach could be made into an economically meaningful approach through a long and tortuous series of major adjustments that must include: using total company results, rather than data allocated to interstate only; measuring cost of capital, depreciation rates and capital input amounts using economic meaningful approaches rather than using arbitrary accounting allocations. These changes require that an interstate accounting approach be significantly modified to be a total company economic approach. In essence, the study would have to be consistent with a TFP approach, rather than the ROR monitoring rules upon which AT&T focuses.

H. Historical Price Method

Issue 2b:

Is the Historical Price Method superior to the TFP approach for developing an X-Factor?

To the extent that the "historical price method" is based on the Frentrup-Uretsky Study, it is flawed and totally inferior to the TFP approach. The purpose of the 1990 short-term Frentrup-Uretsky Study was to predict the actual productivity gains that LECs could achieve going forward under price caps. A major advantage of the TFP method is that it is based on actual, not predicted productivity results. Likewise, any other method that merely predicts accounting ROR estimates is inferior to the TFP method which calculates actual productivity growth.

The historical price method is further flawed by its ability to be manipulated through the excision of particular data to achieve a desired goal. As SWBT and the other performance review petitioners and intervenors have noted in Case No. 95-1217 (D.C. Circuit), the Commission's past use of the Frentrup-Uretsky Study resulted in an annual productivity offset which was much too high.[28]

I. Consumer Productivity Dividend

Issue 2c:

Should the X-Factor in the long-term price cap plan include a consumer productivity dividend?

The Commission originally adopted a Consumer Productivity Dividend as an arbitrary additive to the LEC productivity differential. The Commission's stated rationale in requiring the CPD was to ensure that customers receive the first benefits of the improvements in productivity that result from the change in regulation from cost-based ROR regulation to price cap regulation.

Thus, the CPD was originally (and improperly) envisioned as a way to ensure that, if future LEC productivity growth increased, interstate access customers would receive benefits from that future improvement. However, this incorrectly perceived need no longer exists. SWBT and USTA now support the calculation of a productivity offset using a moving average of recent productivity growth as the means by which the appropriate amount of benefits of increased LEC productivity are flowed through to access customers. Thus, an explicit CPD

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[28] See, Brief for the Performance Review Petitioners and Intervenors in Support Thereof, Bell Atlantic v. FCC, Case No. 95-1217 (and consolidated cases) (D.C. Circuit), filed September 13, 1995, pp. 17-28. (95-1217 Petitioners Brief).

additive -- above the flow-through of LEC productivity gains reflected in a moving-average TFP productivity offset -- is not warranted.

There is no longer any basis, if there was ever any, to include a consumer productivity dividend (CPD) in the X-factor. Currently, the CPD forces prices downward merely for the sake of forcing them downward.[29]

J. Updating of X-Factor

Issue 3a:

Should we base the X-Factors in the long-term plan on a moving average, or should we establish fixed X-Factors to be reviewed and revised periodically in performance reviews?

Use of a moving average TFP-based productivity offset is a reasonable method of flowing the benefits of productivity gains back to access customers. The fundamental premise of price cap regulation is that incentives to be efficient must be retained by the regulated firms, or regulation will strongly discourage the types of publicly beneficial actions taken by firms in unregulated sectors of the economy. The Commission has consistently recognized that the profit motive is the engine that powers the efficiency incentives.

A moving average productivity offset retains some aspects of cost-plus, ROR regulation, but allows firms to retain the financial benefits of their increased productivity for a moderate period of time and then to flow those benefits to customers on a schedule approximately on par with the flow-throughs that occur in unregulated industries.

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[29] See, e.g., Policy and Rules Concerning Rates for Dominant Carriers 5 FCC Rcd. 6786 (1990) paras. 2, 22. See also 95-1217 Petitioners Brief, pp. 28-33.